

ROLE OF CABIN AIR IN DEEP-VEIN THROMBOSIS

Stewart Gough

03/19/2001

INTERNATIONAL COPYRIGHT, U.S. & FOREIGN COMMERCIAL SERVICE AND U.S. DEPARTMENT OF STATE, 2001. ALL RIGHTS RESERVED OUTSIDE OF THE UNITED STATES.

A recent investigation into flying and health has uncovered evidence that cabin air could play a significant role in contributing to DVT (deep-vein thrombosis).

DVT has been closely associated with cramped seating - hence the expression "economy class syndrome" - but there is increasing evidence that one of its causes could be the pressurization of air within the cabin. Recent tests seem to confirm the initial findings by a team of Norwegian doctors, who published their research last December.

The latest tests were conducted in a pressurized chamber and showed that a decrease in atmospheric pressure "activated coagulation" in the blood - ie it increased the likelihood of clotting. This echoed the results from the Norwegian team who stated that the blood-clotting system is activated by between two and eight times (more than normal) by a combination of a reduction in air pressure and the immobility of the lower limbs. The tests revealed that during flights, normally healthy people could expect an average decrease in blood oxygen levels of 4.3 per cent and a corresponding increase in the amount of clotting "markers" in the blood.

Anyone with any form of lung or heart disease is already known to be at greater risk when exposed to low air pressure. But the possible link between this and DVT has not previously been suggested. A normal, fit person would be expected to have an initial blood oxygen level of 98 per cent. A passenger with asthma or lung disease, or who was unfit or even just had a cold, would have lower levels to begin with. These would therefore drop even further.

There has been a reported increase in the number of travelers who had experienced health problems when flying. Many had been passengers on the latest generation of wide-bodied aircraft which tend to fly 5,000 ft higher than most commercial jets. The most commonly reported symptoms were: nausea and vomiting, dizziness, swelling of arms/legs, blurred vision and breathlessness.

Prior to this, the last known research into cabin pressurization was published back in 1988. Even then, the study revealed that pressure on board different aircraft was highly variable. Two hundred and four different flights were measured. Airlines state that air pressure and the level of oxygen saturation in crew members had been tested in independent studies. These reveal that there was no problem with low blood oxygen. However, it should be noted that cabin crews generally tend to be young, fit and healthy and are constantly moving around the cabin, thus eliminating the risk of immobility.

IMI Customer Satisfaction Survey

U.S. Department of Commerce
International Trade Administration
The Commercial Service

The U.S. Department of Commerce would appreciate input from U.S. businesses that have used this IMI report in conducting export market research. Please review the privacy statement / disclaimers at the bottom of this Web site. Please take a few moments to complete the attached survey and fax it to 202/482-0973, mail it to QAS, Rm. 2002, U.S. Department of Commerce, Washington, D.C. 20230, or Email: Internet[Opfer@doc.gov].

* * * About Our Service * * *

1. Country covered by report: _____

Industry/title: _____

Commerce domestic office that assisted you (if applicable):

2. How did you find out about the IMI service?

- ☐ Direct mail
- ☐ Recommended by another firm
- ☐ Recommended by Commerce staff
- ☐ Trade/state/private newsletter
- ☐ Department of Commerce newsletter
- ☐ Other (specify): _____

3. Please indicate the extent to which your objectives were satisfied:

- 1-Very satisfied
- 2-Satisfied
- 3-Neither satisfied nor dissatisfied
- 4-Dissatisfied
- 5-Very dissatisfied
- 6-Not applicable

- ☐ Overall objectives
- ☐ Accuracy of information
- ☐ Completeness of information
- ☐ Clarity of information
- ☐ Relevance of information
- ☐ Follow-up by Commerce representative

4. In your opinion, did using the IMI service facilitate any of the following?

- ☐ Decided to enter or increase presence in market
- ☐ Developed an export marketing plan
- ☐ Added to knowledge of country/industry
- ☐ Corroborated market data from other sources
- ☐ Decided to bypass or reduce presence in market
- ☐ Other (specify): _____

5. How likely would you be to use the IMI service again?

- ☐ Definitely would
- ☐ Probably would
- ☐ Unsure
- ☐ Probably would not
- ☐ Definitely would not

6. Comments:

* * * About Your Firm * * *

1. Number of employees: ☐ 1-99 ☐ 100-249 ☐ 250-499
☐ 500-999 ☐ 1,000+

2. Location (abbreviation of your state only): _____

3. Business activity (check one):

☐ Manufacturing

☐ Service

☐ Agent, broker, manufacturer's representative

☐ Export management or trading company

☐ Other (specify): _____

4. Value of export shipments over the past 12 months:

☐ Less than \$10K

☐ \$11K-\$100K

☐ \$101K-\$500K

☐ \$501K-\$999K

☐ \$1M-\$5M

☐ More than \$5M

May we call you about your experience with the IMI service?

Contact name: _____

Phone: _____

Fax number: _____

Email: _____

Thank you--we value your input!

This report is authorized by law (15 U.S.C. 1512 et seq., 15 U.S.C. 171 et seq.). While you are not required to respond, your cooperation is needed to make the results of this evaluation comprehensive, accurate, and timely. Public reporting burden for this collection of information is estimated to average ten minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Reports Clearance Officer, International Trade Administration, Rm. 4001, U.S. Dept. of Commerce, Washington, D.C. 20230, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0625-0217), Washington, D.C. 20503.

FORM ITA 4130P-I (rev. 5/95)
OMB. No. 0625-0217; Expires 05/31/02